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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,823	02/10/2004	Wolfgang Albrecht	NI 162	8181

7590 12/13/2005
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EXAMINER

HON, SOW FUN

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 12/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/775,823

Applicant(s)

ALBRECHT ET AL.

Examiner

Sow-Fun Hon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 10-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Germany on August 10, 2001. It is noted, however, that applicant has not filed a certified copy of the German application as required by 35 U.S.C. 119(b).

Election/Restrictions

2. Restriction to one of the following inventions is required under 35 U.S.C. 121:
- I. Claims 1-9, drawn to an article, classified in class 428, subclass 34.1.
 - II. Claims 10-17, drawn to a method, classified in class 427, subclass 358.

The inventions are distinct, each from the other because of the following reasons:

3. Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the membrane body can be made by positioning an incision in a flat membrane (12), threading through the incision the at least one hollow membrane (11) coated with polymer solution, and then trimming the flat membrane (12) to the desired size.
4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

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5. During a telephone conversation with Klaus Bach on December 5, 2005, a provisional election was made with traverse to prosecute the invention of Group I, claims 1-9. Affirmation of this election must be made by applicant in replying to this Office action. Claims 10-17 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite in that it fails to point out what is included or excluded by the claim language. The phrase "preferably of polypropylene" implies that there are other materials which may be included. This claim is an omnibus type claim. Amendment is required.

8. Claim 9 recites the limitation "disposed in the polymer solution" not present in parent claim 1. There is insufficient antecedent basis for this limitation in the claim. Furthermore, it is unclear whether the membrane body is immersed in a polymer solution containing the reinforcement structures, or whether the membrane body is

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manufactured from a polymer solution containing the reinforcement structures.

Amendment is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-7, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gerlach (US 4,744,906) in view of Baurmeister (US 6,866,783).

Regarding claim 1, 3, Gerlach teaches a hollow membrane (fiber, column 3, lines 67-68) that a coating which also serves as a membrane with different permeability and selectivity properties may be applied to the hollow membrane (column 4, lines 10-14), and a membrane in the form of a flat membrane (foil, column 3, lines 67-68). Gerlach teaches that the hollow membranes (fibers) may be used in the formation of a sheet-form material such as a web (column 7, lines 8-10), to which the coating material, which forms a membrane with different permeability and selectivity properties (column 4, lines 10-14), is applied from a film-forming solution (column 7, lines 25-30). Gerlach fails to teach that the coating membrane is in the form of a flat membrane.

However, Baurmeister teaches that hollow-fiber membranes are incorporated into a hollow-fiber web sheet (mat) by means of flat connecting elements in the form of

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strips which run perpendicular to the mutually parallel hollow-fiber membranes (column 9, lines 38-47).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have formed the web sheet of Gerlach with the hollow-fiber membranes in a parallel fashion, as taught by Baurmeister, whereby coating the assembled hollow fiber membrane structure with a membrane-forming solution, as taught by Gerlach, forms flat interconnecting elements over and inbetween the hollow fiber membranes, as taught by Baurmeister, resulting in the hollow membrane (11) at least partially surrounded by at least one flat membrane (12), or surrounded by at least two flat membranes (12), in order to combine the different permeability and selectivity properties in a web sheet, as taught by Gerlach.

Regarding claim 2, Gerlach in view of Baurmeister fails to specify that said hollow membrane (11) is fully surrounded by the at least one flat membrane (12).

However, Gerlach teaches an embodiment wherein the hollow fiber is embedded with the help of a polymer solution (column 8, lines 41-42).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have embedded the hollow membrane (11) in, and hence have it fully surrounded by the flat membrane (12), in the membrane body (10) of Gerlach in view of Baurmeister, in order to provide the desired combination of permeability and selectivity properties, as taught by Gerlach.

Regarding claim 4, Gerlach teaches that the hollow membranes (fibers) have open pores (column 6, line 43). The coating membrane (column 4, lines 10-14) would

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then interconnect with the hollow membrane at the places where it contacts an open pore of the hollow membrane. Therefore the hollow membrane (11) and said at least one flat membrane (12) in the membrane body (10) of Gerlach in view of Baurmeister, are interconnected.

Regarding claim 5, Gerlach teaches that the membranes consist of at least one polymer or co-polymer (column 4, lines 50-61). Therefore that the hollow membrane (11) and the at least one flat membrane (12) in the membrane body (10) of Gerlach in view of Baurmeister, consist of at least one polymer or co-polymer.

Regarding claim 6, Gerlach teaches that at least two hollow membranes are provided and form a hollow membrane mat (fibers in the formation of a sheet web, column 7, lines 8-10), consisting of polypropylene (column 8, lines 49-50). The amine is the inert solvent which is removed after formation of the hollow membranes (column 9, lines 34-36).

Regarding claim 7, Gerlach teaches that the coating membrane is manufactured from a membrane material in a film-forming solution (column 7, lines 27-31), and that the membrane material is a polymer (column 4, lines 50-61). Therefore the flat membrane (12) in the membrane body of Gerlach in view of Baurmeister, is manufactured from a polymer solution.

Regarding claim 9, Gerlach teaches that the membrane body includes fiber structures such as webs or fleeces (column 7, lines 8-10) which function as reinforcement structures as defined by Applicant's specification (page 4, lines 9-15).

The limitation "disposed in the polymer solution" is a process limitation during the

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manufacture of the membrane body, and is therefore not given any patentable weight. Even though product by process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. See MPEP 2113 [R-1]

10. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gerlach in view of Baurmeister, as applied to claims 1-7, 9 above, and further in view of Thakore (US 4,954,145).

Gerlach in view of Baurmeister teaches a membrane body (10) comprising a hollow membrane (11) at least partially surrounded by at least one flat membrane (12), as discussed above.

In addition, Gerlach teaches that the polymer solution is propylene/amine (column 9, lines 18-20), and can be 10 % (column 3, lines 53-60), but fails to teach that the 10 % polymer solution is polyacrylonitrile/dimethylformamide.

Thakore teaches that a polymer solution of polyacrylonitrile/dimethylformamide (column 3, lines 35-39) forms an asymmetric type membrane (column 3, lines 42-44), while a polymer solution of polypropylene forms an isotropic membrane (column 1, lines 33-39).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used a polyacrylonitrile/dimethylformamide

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solution in place of the polypropylene solution in the membrane body (10) of Gerlach in view of Baurmeister, in order to obtain an asymmetric membrane, as taught by Thakore.

Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number (571)272-1492. The examiner can normally be reached Monday to Friday from 10:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on (571)272-1498. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S. Hon

Sow-Fun Hon

12/08/05

Nasser Ahmad

NASSER AHMAD
PRIMARY EXAMINER

Acting SPE

12/8/05